

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: )  
 )  
David CARBONARI )  
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Serial No.: To be assigned )  
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Filed: September 30, 2003 )  
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For: ULTRA-WIDEBAND RECEIVER )

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San Diego, California  
September 30, 2003

MAIL STOP PATENT APPLICATION  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Dear Sir or Madam:

In accordance with 37 C.F.R. § 1.56, Applicants make the below-listed documents of record in the above-identified application. In accordance with 37 C.F.R. § 1.97, this statement is not to be construed as a representation that a search has been made, and is not a representation that the information cited is effective as prior art to the application or is material to patentability.

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**CERTIFICATE OF EXPRESS MAILING**

I hereby certify that this correspondence and anything being referred to as enclosed herein is being deposited with the United States Postal Service via Express Mail Post Office to Addressee Label No. EV292297058US, with sufficient postage in an envelope addressed to MAIL STOP PATENT APPLICATION, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Date: September 30, 2003

By: Gregory P. Austin  
Gregory P. Austin

#### U.S. Patent Documents

1. U.S. Patent No. 3,728,632 to Gerald F. Ross, issued April 17, 1973;
2. U.S. Patent No. 4,641,317 to Larry W. Fullerton, issued February 3, 1987;
3. U.S. Patent No. 4,813,057 to Larry W. Fullerton, issued March 14, 1989;
4. U.S. Patent No. 4,979,186 to Larry W. Fullerton, issued December 18, 1990;
5. U.S. Patent No. 5,677,927 to Larry W. Fullerton and Ivan A. Cowie, issued October 14, 1997
6. U.S. Patent No. 6,505,032 B1 to John W. McCorkle, Timothy R. Miller and Martin Rofheart, issued January 7, 2003;
7. U.S. Patent No. 2003/0054764 A1 to John W. McCorkle and Martin Rofheart, published March 20, 2003;
8. U.S. Patent No. 2003/0096578 A1 to John W. McCorkle, Timothy R. Miller and Martin Rofheart, published May 22, 2003;

#### Foreign Patent Documents

9. WO 01/73965 A2 to Time Domain Corporation, issued October 4, 2001;
10. WO 01/76086 A2 to Time Domain Corporation, issued October 11, 2001;
11. WO 01/93446 A2 to XtremeSpectrum, Inc., issued December 6, 2001;

#### Other Documents

12. MOE Z. WIN, ROBERT A. SCHOLTZ, "Energy Capture vs. Correlator Resources in Ultra-Wide Bandwidth Indoor Wireless Communications Channels," Communication Sciences Institute, Department of Electrical Engineering-Systems, University of Southern California, Los Angeles, CA 90089-2565 USA;
13. V. SRINIVASA SOMAYAZULU, JEFFREY R. FOERSTER and SUMIT ROY, "Design Challenges for Very High Data Rate UWB Systems," Intel Labs., 2111 N.E. 25<sup>th</sup> Ave., Hillsboro, OR 97124-5961 USA.

14. ROBERT FLEMING, CHERIE KUSHER, "Integrated, Low-Power, Ultra-Wideband Transceivers for Distributed Position Location and Communication", Semi-Annual Technical Report Contract J-BFI-94-058, Aether Wire & Location, Inc. July 1995, Nicasio, CA, USA;
15. ROBERT FLEMING, CHERIE KUSHER, "Low-Power, Miniature, Distributed Position Location and Communication Devices Using Ultra-Wideband, Nonsinusoidal Communication Technology", Semi-Annual Technical Report Contract J-BFI-94-058, Aether Wire & Location, Inc. July 1995, Nicasio, CA, USA;
16. DAVID G. LEEPER, "Wireless Data Blaster", Scientific American, Vol. 286, No. 5, May 2002, pgs. 64-9, USA

\* \* \*

The above-listed documents are listed on the accompanying Form PTO/SB/08 (submitted in duplicate).


In accordance with the waiver of the requirement of 37 C.F.R. § 1.98(a)(2)(i) for submitting a copy of each cited U.S. patent and U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003 that appears in the Pre-OG Notice dated July 11, 2003 and entitled "Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications Filed After June 30, 2003", copies of the above-listed U.S. patents and U.S. patent application publications are not enclosed. Copies of the above-listed foreign patent documents and non-patent literature are enclosed.

It is respectfully requested that these documents be (1) fully considered by the U.S. Patent and Trademark Office in the examination of the above-identified application; and (2) printed on any patent which may issue on this application. It is also respectfully requested that a copy of Form PTO/SB/08, as considered and initialed by the Examiner, be returned to the undersigned with the next communication in accordance with M.P.E.P. § 609.

This Information Disclosure Statement is filed within three months of the filing date of the above-identified application, pursuant to 37 C.F.R. 1.97(b). Therefore, it is believed that no fee is required in connection with this submission. In the event that a fee is required, please charge our Deposit Account No. 50-2298, in the name of Luce, Forward, Hamilton & Scripps LLP.

Respectfully submitted,

9.30.03  
Date

  
Peter R. Martinez  
Attorney for Applicant(s)  
Reg. No. 42,845  
c/o LUCE, FORWARD, HAMILTON  
& SCRIPPS LLP  
11988 El Camino Real, Ste. 200  
San Diego, California 92130  
Telephone No.: (858) 720-6300

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	To Be Assigned
Filing Date	September 30, 2003
First Named Inventor	David CARBONARI
Art Unit	To Be Assigned
Examiner Name	To Be Assigned
Attorney Docket Number	30287-105

Sheet 1 of 2

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	1	US- 3,728,632	04-17-1973	Ross	
	2	US- 4,641,317	02-03-1987	Fullerton	
	3	US- 4,813,057	03-14-1989	Fullerton	
	4	US- 4,979,186	12-18-1990	Fullerton	
	5	US- 5,677,927	10-14-1997	Fullerton et al.	
	6	US- 6,505,032 B1	01-07-2003	McCorkle et al.	
	7	US- 2003/0054764 A1	03-20-2003	McCorkle et al.	
	8	US- 2003/0096578 A1	05-22-2003	McCorkle et al.	
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**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	9	WO 01/73965 A2	10-04-2001	Time Domain Corporation		
	10	WO 01/76086 A2	10-11-2001	Time Domain Corporation		
	11	WO 01/93446 A2	12-06-2001	XtremeSpectrum, Inc.		

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>			<b>Complete if Known</b>		
			Application Number	To Be Assigned	
			Filing Date	September 30, 2003	
			First Named Inventor	David CARBONARI	
			Art Unit	To Be Assigned	
			Examiner Name	To Be Assigned	
Sheet	2	of	2	Attorney Docket Number	30287-105

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T <sup>2</sup>
	12	MOE Z. WIN, ROBERT A. SCHOLTZ, "Energy Capture vs. Correlator Resources in Ultra-Wide Bandwidth Indoor Wireless Communications Channels," Communication Sciences Institute, Department of Electrical Engineering-Systems, University of Southern California, Los Angeles, CA 90089-2565 USA		
	13	V. SRINIVASA SOMAYAZULU, JEFFREY R. FOERSTER and SUMIT ROY, "Design Challenges for Very High Data Rate UWB Systems," Intel Labs., 2111 N.E. 25th Ave., Hillsboro, OR 97124-5961 USA		
	14	ROBERT FLEMING, CHERIE KUSHER, "Integrated, Low-Power, Ultra-Wideband Transceivers for Distributed Position Location and Communication", Semi-Annual Technical Report Contract J-BFI-94-058, Aether Wire & Location, Inc. July 1995, Nicasio, CA, USA		
	15	ROBERT FLEMING, CHERIE KUSHER, "Low-Power, Miniature, Distributed Position Location and Communication Devices Using Ultra-Wideband, Nonsinusoidal Communication Technology", Semi-Annual Technical Report Contract J-BFI-94-058, Aether Wire & Location, Inc. July 1995, Nicasio, CA, USA		
	16	DAVID G. LEEPER, "Wireless Data Blaster", Scientific American, Vol. 286, No. 5, May 2002, pgs. 64-9, USA		

Examiner Signature		Date Considered	
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1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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